

Application No. 09/821,694
 Amendment dated
 Reply to final Office Action of December 14, 2004
 EXPEDITED PROCEDURE – GROUP ART UNIT 1634

Atty Dkt No. 0450-0001

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 24, line 10, to page 25, line 6, with the following rewritten paragraph. Please note that this paragraph was previously amended in the Preliminary Amendment filed on August 27, 2001; in the Preliminary Amendment SEQ ID NOs were removed from the paragraph.

Likewise, a specific sequence position of two probes, each having partially overlapping base pairing sets of two possible nucleotides at that sequence position, such as two probes for hybridization having a sequence 5'-AT(X₁)GG linked to a chemiluminescent (ChL) or other tag, ~~5'-AT(X₁)GG-ChL₁~~ 5'-AT(dP)GG-ChL₁ and ~~5'-AT(X₂)GG-ChL₂~~ 5'-AT(X₂)GG-ChL₂, where ChL₁ and ChL₂ are chemiluminescent at different frequencies, and X₁ comprises T or C in equal proportions, and X₂ comprises G or T in equal proportions making the third (X₁) position of 5'-AT(X₁)GG-ChL₁ (SEQ ID NO: 15) pair degenerately to the set of nucleotides G and A (base pairing complementarity set = {G, A}), and the third (X₂) position of 5'-AT(X₂)GG-ChL₂ pair degenerately to the set of nucleotides C and A (base pairing complementarity set = {C, A}). Thus 5'-AT(X₂)GG-ChL₂ is the effective equivalent to the degenerately pairing hybridization probe 5'-AT(dP)GG-ChL₂, which utilizes, instead of equal proportions at the third position of C and T, the deoxynucleoside analog dP which base pairs, for the purpose of hybridization, almost equally with G and A. Analogously 5'-AT(X₁)GG-ChL₁ is the equivalent to 5'-AT(8-oxo-dG)GG-ChL₁, with the degenerately pairing analog 8-oxo-dG, which pairs, for the purposes of hybridization, nearly equally with A and C, at the third position instead of equal proportions of T and G. Both sets of hybridization probes {5'-AT(dP)GG-ChL₂, 5'-AT(8-oxo-dG)GG-ChL₁} and {5'-AT(X₂)GG-ChL₂, 5'-AT(X₁)GG-ChL₁} as well as sets in which a degenerately base pairing nucleoside analog is employed for one of the probes, while equal proportions of nucleosides having the desired base pairing properties may be employed, as long as the base pairing sets overlap in the manner described, e.g. for two doubly degenerate base pairing sets, overlap of one of the nucleotides. Two unique doubly degenerate base pairing sets, e.g. each base pairing complementary set containing two nucleosides that are about equally paired for hybridization purposes, are required for normal nucleic acid sequences having four possible nucleotides (the ribonucleoside Uracil (U) being equivalent for these purposes to T).